

# Grade 5 City Planning Math Rubric

## 2015-2016 NYC Baseline Performance Tasks

### Instructions

- The following pages contain the rubric to be used for the scoring of the above-named NYC Performance Task.
- The rubric is intended to be used in conjunction with the Scoring Guide for each task, which provides annotated samples of student work scored against the rubric.
- Fall Baseline tasks may be administered and scored by the regular classroom teacher.
- All student work should be completed in the task booklet. All student work in the task booklet should be scored, regardless of whether the student completed or attempted every question.
- All scores should be recorded on the appropriate answer sheet.
- For assistance with scanning answer sheets, see the Baseline Assessment Administration Handbook.

	<b>4 Points</b>	<b>3 Points</b>	<b>2 Points</b>	<b>1 Point</b>	<b>0 Points</b>
<b>T1</b> <b>Trait 1</b> 3.NF.1 (Q1)				<ul style="list-style-type: none"> <li>The student gives the correct answer: <math>\frac{1}{4}</math> or an equivalent fraction, such as: <math>\frac{2}{8}</math> or <math>\frac{18}{72}</math>.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>
<b>T2</b> <b>Trait 2</b> 5.NF.1 (Q2)			<ul style="list-style-type: none"> <li>The student gives the correct answer: <math>\frac{1}{24}</math> or an equivalent fraction.            ----- <b>and</b> -----</li> <li>The student shows a correct process for finding the fraction of the city that still needs to become parkland, such as: <math>\frac{1}{8} - \frac{1}{12} = \frac{3}{24} - \frac{2}{24} = \frac{1}{24}</math> or other valid work.</li> </ul>	<ul style="list-style-type: none"> <li>The student gives the correct answer and no work is shown.            ----- <b>or</b> -----</li> <li>A correct process is started, but computational error leads to incorrect answer.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>
<b>T3</b> <b>Trait 3</b> 5.NF.1 (Q3)			<ul style="list-style-type: none"> <li>The student gives the correct answer: <math>\frac{7}{24}</math> or an equivalent fraction.            ----- <b>and</b> -----</li> <li>The student shows a correct process for finding the fraction of the city that still needs to become parkland, such as: <math>\frac{1}{8} + \frac{1}{6} = \frac{3}{24} + \frac{4}{24} = \frac{7}{24}</math> or other valid work.</li> </ul>	<ul style="list-style-type: none"> <li>The student gives the correct answer and no work is shown.            ----- <b>or</b> -----</li> <li>A correct process is started, but computational error leads to incorrect answer.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>
<b>T4</b> <b>Trait 4</b> 5.NF.4a (Q4)			<ul style="list-style-type: none"> <li>The student gives the correct answer: <math>\frac{1}{8}</math> or an equivalent fraction, such as: <math>\frac{3}{24}</math> or <math>\frac{9}{72}</math>.            ----- <b>and</b> -----</li> <li>The student writes a correct equation for finding the fraction of the city that will be used for apartments, such as: <math>\frac{3}{8} \times \frac{1}{3}</math>. Or the student shows correct work, such as: sectioning off 3 of the 8 rows on the city map and shading 3 of 9 columns in that section.</li> </ul>	<ul style="list-style-type: none"> <li>The student gives the correct answer and no work is shown.            ----- <b>or</b> -----</li> <li>A correct process is started, but computational error leads to incorrect answer.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>
<b>T5</b> <b>Trait 5</b> 5.NF.2 (Q5)			<ul style="list-style-type: none"> <li>The student gives the correct answer <math>\frac{11}{24}</math> or the fractional equivalent.            ----- <b>and</b> -----</li> <li>The student explains that their answer is reasonable, using evidence such as: <math>\frac{3}{8} + \frac{1}{8} = \frac{1}{2}</math>, and <math>\frac{1}{12}</math> is less than <math>\frac{1}{8}</math>, so the total will be a little less than <math>\frac{1}{2}</math> or other valid explanation.</li> </ul>	<ul style="list-style-type: none"> <li>The student gives the correct answer but does not estimate to explain the work.            ----- <b>or</b> -----</li> <li>A correct process is started, but computational error leads to incorrect answer.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>
<b>T6</b> <b>Trait 6</b> 5.NF.3 (Q6)			<ul style="list-style-type: none"> <li>The student gives the correct answer: <math>3\frac{3}{5}</math> or 3.6 blocks.            ----- <b>and</b> -----</li> <li>The student shows correct work, such as: <math>18 \div 5 = 3\frac{3}{5}</math> or 3.6.</li> </ul>	<ul style="list-style-type: none"> <li>The student gives the correct answer and no work is shown.            ----- <b>or</b> -----</li> <li>A correct process is started, but computational error leads to incorrect answer, or does not connect answer to context.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>

	<b>4 Points</b>	<b>3 Points</b>	<b>2 Points</b>	<b>1 Point</b>	<b>0 Points</b>
<b>T7</b> Trait 7 5.NF.7b (Q7)			<ul style="list-style-type: none"> <li>The student gives the correct answer: 90 houses.</li> <li>----- <b>and</b> -----</li> <li>The student shows correct work, such as: <math>9 \div 1/10 = 90</math> or <math>9 \times 10 = 90</math> or other valid work.</li> </ul>	<ul style="list-style-type: none"> <li>The student gives the correct answer and no work is shown.</li> <li>----- <b>or</b> -----</li> <li>A correct process is started, but computational error leads to incorrect answer.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>
<b>T8</b> Trait 8 5.NF.7a (Q8)			<ul style="list-style-type: none"> <li>The student gives the correct answer: <math>1/32</math> of the block.</li> <li>----- <b>and</b> -----</li> <li>The student shows correct work, such as: <math>1/8 \div 4 = 1/32</math> or <math>1/8 \times 1/4 = 1/32</math>.</li> </ul>	<ul style="list-style-type: none"> <li>The student gives the correct answer and no work is shown.</li> <li>----- <b>or</b> -----</li> <li>A correct process is started, but computational error leads to incorrect answer.</li> </ul>	<ul style="list-style-type: none"> <li>Makes no attempt or answers incorrectly.</li> </ul>

<b>Level 4 Exceeding Standards</b> 13 - 15 points	<b>Level 3 Meeting Standards</b> 9 - 12 points	<b>Level 2 Approaching Standards</b> 5 - 8 points	<b>Level 1 Attempting Standards</b> 0 - 4 points
<p>Student demonstrates deep understanding of applying the four operations to solving problems with fractions <b>(all questions)</b><sup>1</sup>. Student uses common denominators for adding and subtracting fractions <b>(all questions)</b>. Student is comfortable interpreting fractions as division <b>(Q6, Q7, Q8)</b> and uses estimation to check the reasonableness of results <b>(Q5)</b>. Student sees the relationship between division and multiplication in fraction operations <b>(Q7, Q8)</b>.</p>	<p>Student demonstrates understanding of applying the four operations to solving problems with fractions. Student attempts using common denominators to add and subtract fractions, but with minor errors. Student interprets fractions as division. Student uses estimation but may make errors comparing fractions. Student knows that there is a relationship between multiplication and division in fraction operations but may not make that clear. Minor errors occur.</p>	<p>Student is only able to be successful on part of the performance task. Student attempts to calculate quantities in the questions involving common denominators to add and subtract fractions, but with major errors that result in a misunderstanding of the concept. Student is likely to calculate multiplication of fractions correctly, but may struggle with division and seeing its relationship to multiplication. Student may struggle with applying estimation to check the reasonableness of results.</p>	<p>Student demonstrates minimal success on the task. There are some attempts, but complete work does not exist. Student is likely to calculate quantities in questions 1 and 4, but struggles with other operations with fractions. Student struggles with reasoning and explaining work.</p>
<p>Student's response meets the demands of nearly all of the tasks as defined by the Common Core standards, with few or no errors. Student's response shows a deep understanding of the problem <b>(all work shown)</b>. Student is able to build a logical progression of statements to explain thinking. Student's response routinely interprets mathematical results in the context of the situation <b>(Q6)</b>. The communication is clear <b>(all work)</b>. All of the steps are included so that the reader does not need to infer how and why decisions are made <b>(all work shown for all questions)</b>. Mathematical representation is actively used to communicate the solution to the problem. There is precise and appropriate use of mathematical terminology and notation <b>(all work shown for all questions)</b>. Student often discerns patterns or structures and makes connections between quantities and representations <b>(Q7)</b>.</p>	<p>Student's response meets the demands of nearly all of the tasks as defined by the Common Core standards, with few errors. For most of the task, student's response shows broad understanding of the problem and the major concepts necessary for a solution. Student explains the problem and describes the solution path. Effective mathematical reasoning is used. There is a sufficiently clear communication to be able to follow reasoning. There is appropriate use of accurate mathematical representation. There is effective use of mathematical terminology and notation. Student makes sense of quantities and their relationships in the problem situations. Student might notice patterns or structures and make connections between quantities and representations.</p>	<p>Student's response shows some of the elements of performance that the tasks demand and some signs of a coherent approach to problem solving as defined by the Common Core standards. Student uses a strategy that is partially useful, leading some of the way to a solution. The solution is not complete. The solution addresses some but not all of the mathematical components in the task. Some evidence of mathematical reasoning is evident. Some parts of the work may be correct. There is an incomplete explanation, or it may not be clearly presented. There is some use of appropriate mathematical representation. There is some use of mathematical terminology and notation that is appropriate to the problem. Student may recognize some patterns or structures, but does not yet generalize or use them to solve the problem.</p>	<p>Student's response shows a few of the elements of performance that the tasks demand as defined by the Common Core standards. However, the misconceptions are substantial and require further instruction. There is no solution, or the solution has no relationship to the task. There is hardly any evidence of a strategy or procedure. There is hardly any evidence of mathematical reasoning. There are many errors in mathematical procedures. Lack of communication makes it difficult to follow student's reasoning, or it is unrelated to the problem. There is no use, or inappropriate use, of mathematical representation, mathematical terminology, and notation. Student is not yet recognizing patterns or the structure of the problem situation.</p>

<sup>1</sup>This notation identifies the questions that relate to the holistic rubric criteria.